

Appl. No. 10/537,573
Amendment dated 05/02/2008
Reply to Office Action of 01/03/2008

Remarks

Rejections under 35 U.S.C. 103

Claims 1-7 and 9-10 were rejected as being unpatentable over Dalle et al. (US Pat. 6,248,855) in view of Schirosi et al. (WO 02/42360), and as evidenced by Singh et al. (US Pat. 6,479,610).

Applicant respectfully traverses this rejection and believes the present claims are non-obvious over Dalle et al. in view of Schirosi et al., and as evidenced by Singh et al. for the following reasons.

First, Applicant respectfully submits the 103 rejection does not provide a sufficient factual inquiry of obviousness as stated in *Graham v. John Deere Co.*, and further described in the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of the Supreme Court Decision in *KSR v. Teleflex Inc.*, (Federal Register/Vol. 72, No. 195, pages 57526-57535). In particular, Applicant respectfully submits the above rejection fails to determine the scope and content of the prior art, and subsequently fails to ascertain the differences between the claimed invention and the prior art.

Applicant believes the U.S.C. 103 rejection fails to account for a major difference in the cited prior art and the present claims, namely that Dalle teaches the formation of a silicone in water emulsion containing a linear non-crosslinked silicone copolymer where the silicone copolymer is first prepared before emulsification. Dalle further requires the polymerization reaction be interrupted (4:43-52 and claim 1) before emulsification. In contrast, Applicant's present claims require the polysiloxane (I) be emulsified first before reaction the -OR' groups of the organofunctional silane (II) to form the organo-functional polysiloxane.

Appl. No. 10/537,573
Amendment dated 05/02/2008
Reply to Office Action of 01/03/2008

The U.S.C. 103 rejection in the 01/03/08 office action states dimethyltin neodecanoate is recognized as being a "neutral" condensation catalyst as evidenced by Singh et al. (2:55-60). However, Applicant respectfully submits that one skilled in the art, upon reading the present claims and specification, would appreciate the present application to exclude, or at the very least, minimize polymerization of the silanol functional polysiloxane in the emulsification step of the present process. Besides stating the emulsification first step occurs "in the absence of any basic or acidic catalyst", claim 1 also requires reaction of the silanol groups of the polysiloxane with the -OR' groups of the organofunctional silane, after the emulsification step. If a tin catalyst is added to the silanol functional polysiloxane prior to emulsification, as per Dalle, it would polymerize the silanol functional polysiloxane thereby consuming silanol functionality. In contrast, Dalle clearly teaches the importance of polymerization of its polysiloxane, as evidenced by the addition of a tin catalyst and requiring quenching of the polymerization reaction. If the silanol groups of the polysiloxane are consumed (as per the addition of a tin catalyst), the polysiloxane would not be able to react with the organofunctional silane, as required in claim 1. Thus, the use of a tin catalyst of Dalle, even as a "neutral" catalyst as evidenced by Singh, leads to a combination that would render claim 1 inoperable.

Applicant respectfully traverses the following statement, as found on page 2 of the 01/03/2008 office action.

Dalle et al. further teaches that the starting ingredients can be mixed all at once or in any order, provided that water is the last component (6:8-11).

Applicant wishes to point out that 6:8-11 of Dalle, which is reproduced below for convenience, does not refer to the "starting ingredients" of Dalle.

The linear OH endblocked amine functional siloxane copolymer, the surfactant, and water, can be mixed all at
10 once or, alternatively, the materials can be mixed in any order, provided that water is the last component.

Appl. No. 10/537,573
Amendment dated 05/02/2008
Reply to Office Action of 01/03/2008

Rather, 6:8-11 of Dalle refers to the "the linear OH endblocked amine functional siloxane copolymer", which results from polymerizing an OH endblocked polydiorganosiloxane monomer with an amine functional trialkoxysilane monomer in the presence of a metal catalyst. Dalle's "starting ingredients" are thus an OH endblocked polydiorganosiloxane monomer, an amine functional trialkoxysilane monomer, and a metal catalyst, used to prepare the OH endblocked amine functional siloxane copolymer, which is subsequently emulsified. The 6:8-11 cited section thus refers to only the emulsification step (C) of Dalle. In contrast, present claim 1 requires emulsification of a silanol functional polysiloxane. Applicant respectfully submits the 6:8-11 section of Dalle was not interpreted correctly in assessing the differences between the prior art the present claims, as required for a sufficient factual inquiry of obviousness as stated in *Graham v. John Deere Co.*

Applicant therefore respectfully submits the 103 rejection does not adequately assess the scope and content of the prior art, and in particular, the rejection does not account for the differences, as discussed above, between the prior art and claimed invention. Thus, the U.S.C. 103 rejection does not establish a sufficient factual inquiry to support lack of obviousness according to the factors established in *Graham v. John Deere Co.*

Applicant believes the combination of Dalle and Schirosi does not establish a *prima facie* case of obviousness because it fails the teaching/suggestion/motivation test to combine. In particular, Applicant does not believe one skilled in the art would have found it obvious to employ the reaction chemistry of Dalle following the procedure of Schirosi, as alleged in the U.S.C. 103 rejection.

Appl. No. 10/537,573
Amendment dated 05/02/2008
Reply to Office Action of 01/03/2008

As acknowledged in the 01/03/2008 office action on page 2, Dalle does not teach that organofunctional (II) silane is added to the mechanical emulsion of component (I) in water. The rejection relies on Schirosi for its teaching of a process for making silicone emulsions in which mechanical emulsions of polysiloxanes having functional groups at the chain ends are reacted with various chain extension agents such that said chain are added after the mechanical emulsion is produced. The alleged motivation or suggestions to combine Dalle and Schirosi are stated on page 3 of the 01/03/2008 office action, as shown below.

(paragraphs 0022, 0036 and 0039). Dalle et al. and Schirosi et al. are combinable because they are from the same field of endeavor, namely, mechanical emulsions of polysiloxanes. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ the reaction chemistry of Dalle et al. following the procedure as taught by Schirosi et al. and would have been motivated to do so because Dalle et al. suggests that the emulsification can be accomplished in a number of ways including the use of a colloid mill or line mixer, which are necessary components in the continuous process of Schirosi (paragraph 0026).

Applicant respectfully traverses the reasons stated in the above section of the 01/03/2008 office action for combining Dalle and Schirosi and submits one skilled in the art would not have been motivated to employ the reaction chemistry of Dalle following the procedure as taught by Schirosi. In particular, the use of a colloid mill or line mixer in the continuous process of Schirosi or the emulsification step in Dalle does not provide sufficient motivation to combine these references. Rather, Applicant submits that description of such techniques are found in the majority of the emulsion art descriptions and believes one skilled in the art, upon reading such general descriptive emulsification processes in either Dalle or Schirosi, would not interpret this as a reason to combine Dalle and Schirosi. Thus, Applicant does not believe the combination of Dalle and Schirosi establishes the present claims as *prima facie* obvious.

Appl. No. 10/537,573
Amendment dated 05/02/2008
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Claim 8 was rejected under 35 USC 103 as being unpatentable over Dalle in view of Schirosi, as applied to claim 1 above, further in view of Schiller et al. (US Pat. 4,191,817).

Present claim 8 depends on claim 1. Applicant respectfully submits the present claim 1 defines an invention that is non-obvious in view of Dalle and Schirosi and therefore relies on the arguments provided above to overcome the rejection of claim 8.

The present response is being submitted within the statutory period for response to the outstanding Office Action. Applicant authorizes the USPTO to charge deposit account 04-1520 for a one month extension fee, or any other fee that should be necessary to maintain the pendency of the application.

In view of the above, it is respectfully submitted that the claims are in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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